

The Evolution of the Corporate Hierarchy: Span of Control, Compensation and Career Dynamics. Evidence from a Large Scandinavian Firm

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Abstract

In this paper, we test implications from various theories of hierarchies in organizations, in particular the assignment model (Rosen, 1982), the incentives model (Rosen, 1986), the supervision model (Qian, 1994) and the knowledge-based hierarchy model (Garicano, 2000; Garicano and Rossi-Hansberg, 2003). We use a unique dataset providing personnel records from a large Scandinavian firm in an high tech manufacturing industry from January 1997 to May 2004. An unusually rare feature of this dataset is that relationships within the hierarchy are reported and we can therefore identify the chain of command. Some of our results are in line with the Garicano and Rossi-Hansberg (2003) model of hierarchies when communication costs are decreasing: we observe an increase in the span, an increase in wage inequality between job levels, and the introduction of a new hierarchical level. However, we also find evidence of learning and reallocation of talent within and across job levels, a finding that can not be explained by a static model of knowledge based hierarchy but rather by dynamic models of careers in organizations (e.g. Gibbons and Waldman, 1999). We then propose a new model of hierarchies where individuals accumulate general and managerial human capital on the job, and firms learn gradually about individuals' managerial ability and allocate managers to span according to their expected effective ability. This theory explains our empirical findings and provides a richer theory of careers in hierarchies.